

BEST AVAILABLE COPY**AMENDMENTS TO THE CLAIMS**

Please amend the claims as set forth below:

1. (Currently amended) An apparatus comprising:
an input to a microchannel cooling subsystem to receive a fluid flow;
a pumping mechanism coupled to said input of said microchannel cooling subsystem, including a pump adapted to provide said fluid flow, and a fluid flow modifier adapted to cause a turbulence in the fluid flow inside said microchannel cooling subsystem to clear a vapor lock in the fluid flow inside said microchannel cooling subsystem.
2. (Currently amended) The apparatus of claim 1, wherein the ~~pumping mechanism~~ fluid flow modifier comprises ~~a pump and a bubble generator,~~ with said pump coupled to said input of the microchannel cooling subsystem to provide said fluid flow at a first pressure level, and said bubble generator coupled to said input of said microchannel cooling subsystem to cause said turbulence in the provided fluid flow inside said liquid to said microchannel cooling subsystem.
3. (Original) The apparatus of claim 2, wherein said pump is selected from a group consisting of an electrokinetic (ek) pump, a vane pump, a piston pump and a diaphragm pump.
4. (Original) The apparatus of claim 2, wherein said bubble generator is adapted to generate one or more bubbles during a period of time sufficient to cause the pressure of said provided fluid flow to increase from said first pressure level to a second pressure level for said period of time to cause said turbulence in said provided fluid flow inside said microchannel cooling subsystem.

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5. (Original) The apparatus of claim 4, wherein said bubble generator further comprises a chamber to contain a second fluid, an input port to receive said second fluid, an output port coupled to the input of said microchannel cooling subsystem to output said second fluid for said microchannel cooling subsystem, and a heater to heat said second fluid, changing a volume of said second fluid from a fluid state to a gas state within said period of time, to cause said turbulence in said provided fluid flow inside said microchannel cooling subsystem.
6. (Original) The apparatus of claim 5, wherein said input port of said bubble generator is coupled to said pump, and said second fluid is a diverted portion of the provided fluid flow.
7. (Original) The apparatus of claim 5, wherein said heater is activated by an active feedback controller.
8. (Original) The apparatus of claim 1, wherein the said microchannel cooling subsystem comprises a cold plate having a microchannel.
9. (Original) The apparatus of claim 1, wherein the apparatus further comprises said microchannel cooling subsystem, including a plurality of microchannels.
10. (Original) The apparatus of claim 1, wherein the apparatus further comprises said microchannel cooling subsystem; and
a microelectronic die thermally coupled to said microchannel cooling subsystem, to be cooled by the microchannel cooling subsystem.
11. (Original) The apparatus of claim 10, wherein the microelectronic die is a microprocessor.

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12. (Currently amended) A method comprising
supplying a microchannel cooling subsystem with a fluid flow at a first pressure;
and
causing a turbulence in said provided fluid flow inside said microchannel cooling
subsystem to clear a vapor lock in said provided fluid flow inside said microchannel
cooling subsystem. --
13. (Original) The method of claim 12, wherein said causing comprises causing the
pressure of the fluid flow to change for a period of time.
14. (Original) The method of claim 13, wherein said causing of the pressure change
comprises generating one or more bubbles in a second fluid to be combined with the
provided fluid flow, during said period of time.
15. (Original) The method of claim 14, wherein said generating comprises heating
the second fluid.
16. (Original) The method of claim 15, wherein the second fluid is a diverted portion
of the provided fluid flow, and the method further comprises diverting the provided fluid
flow.

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17. (Currently amended) A system comprising:

an IC package including a microchannel cooling subsystem adapted to receive a fluid flow;

a pumping mechanism coupled to said microchannel cooling subsystem of said IC package, including a pump adapted to provide said fluid flow, and a fluid flow modifier adapted to cause a turbulence in said provided fluid flow inside said microchannel cooling subsystem to clear a vapor lock in said provided fluid flow inside said microchannel cooling subsystem; and

a networking interface coupled to the IC package.

18. (Currently amended) The system of claim 17, wherein the ~~pumping mechanism~~ fluid flow modifier comprises ~~a pump and a~~ bubble generator, with said pump coupled to the microchannel cooling system to provide said fluid flow at a first pressure level, and said bubble generator coupled to the microchannel cooling system to cause said turbulence in the provided fluid flow inside said microchannel cooling subsystem.

19. (Original) The system of claim 18, wherein said pump is selected from a group consisting of a vane pump, a piston pump and a diaphragm pump.

20. (Original) The system of claim 18, wherein said bubble generator is adapted to generate one or more bubbles during a period of time to cause the pressure of said provided fluid flow to increase from said first pressure level to a second pressure level for said period of time to cause said turbulence in said provided fluid flow inside said microchannel cooling subsystem.

21. (Original) The system of claim 18, wherein said bubble generator comprises a chamber to contain a second fluid, an input port to receive said second fluid, an output port coupled to the microchannel subsystem to output said second fluid, and a heater to

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heat said second fluid, changing a volume of said second fluid from a fluid state to a gas state within said period of time, to cause said turbulence in said provided fluid flow inside said microchannel cooling subsystem.

22. (Original) The system of claim 21, wherein said input port of said bubble generator is coupled to said pump, and said second fluid is a diverted portion of the provided fluid flow.

23. (Original) The system of claim 22, wherein said heater is activated by an active feedback controller.

24. (Currently amended) The system of claim 17, wherein ~~the~~ said microchannel cooling subsystem comprises a cold plate having a microchannel.

25. (Original) The system of claim 17, wherein said microchannel cooling subsystem includes a plurality of microchannels.

26. (Currently Amended) The system of claim 17, wherein the system is selected from a group consisting of a set-top box, a DVD player and a server.

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